

Work Order ID 101131

101131

Page 1

May-01-13 11:15:04 AM

Item ID: D2580-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: 205 Bent Tube

Start Date: 5/01/13 Start Qty: 4.00

4

Cust Item ID:

Required Date: 5/10/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: M L J

Date: 13-05-01 Tooling:

Date:

Run Start *NR1*

QC:

Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw.Nbr

Revision Nbr

D2580

E

100

0.00

100

Skid tubes

Memo

0.00

Skid tubes

1- Inspect mat'l D2500-1-190 for damage.

2-Drill pilot holes using drill jig DT 8149 A-BC-D

3-Open holes to 0.508" as per Dwg D2580

4-Deburr holes per QSI002 section 4.2.3 and blow out all chips from inside of tube

5- Test fit inspection saddles on FWD & AFT saddle holes.

101

QC6- Inspect dimensions to drawing

0.00

101

QC

Memo

0.00

Quality Control

135.01

13-05-01

6

Work Order ID 101131

May-01-13 11:15:04 AM

101131

Page 2

Item ID: D2580-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: 205 Bent Tube

Start Date: 5/01/13 Start Qty: 4.00

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Cust Item ID:

Required Date: 5/10/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

Chemical Conversion Coat per QSI005 4.1

0.00

110

HandFinish

Memo

0.00

Hand Finishing

- DC 13/05/01

120

QC7-Inspect Chemical Conversion Coat

0.00

120

QC

Memo

0.00

Quality Control

(4) SAD 13-05-01

125

0.00

125

Skidtubes

Memo

0.00

Skidtubes

1- Bond web in place per QSI 015.

(4) SAD 13-05-01

A/R Sikaflex-291 batch: 71124958

Sikaflex expire date: 01/10/2013

Start time and date: 5h00 bond for 12hrs

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Page 3

Item ID: D2580-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: 205 Bent Tube

Start Date: 5/01/13 Start Qty: 4.00

4

Cust Item ID:

Required Date: 5/10/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*


QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				4	2	13-05-02	
140 *140* Packaging Packaging	Identify as per dwg & Stock Location: <u>4/G</u> Memo	0.00 0.00						0213/05/02	
150 *150* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00						13/5/02	

13-05-2

Picklist Print

May-01-13 11:15:07 AM

Page 1

Work Order ID: 101131

101131

Parent Item: D2580-1

D2580-1

Parent Item Name: 205 Bent Tube

Start Date: 5/01/13

Required Date: 5/10/13

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP B01.11.08 Revised Step 9, 10, 12, and 13 SM IPP Rev:C
10.12.01 as per DEO DI DD ver:ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2500-1-190

Manufactured

No

100

Each

47.0000

1

4

D2500-1-190

Ext'n - 1' Beam Tube 4"

**

SAD 13-05-02

Location

Loc Qty

Loc Code

HALL

47

85483

1

91816

46

D2596

Manufactured

No

100

Each

15.0000

1

4

D2596

Web, 205 Skidtube

**

SAD 13-08-01

Location

Loc Qty

Loc Code

LG

15

100367

8

80820

1

95599

2

99682

4

LIST OF MATERIALS					
ITEM	QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
1	X			D2580-041	SKIDTUBE ASSEMBLY
2		X		D2580-045	SKIDTUBE ASSEMBLY
3			X	D2580-047	SKIDTUBE ASSEMBLY
4	1	1	1	D2500-1-190	EXTRUSION
5			16	D2570	BUSHING
6	1	1	1	D2576-3	STEP
7	20	24	25	D2579	SPACER
8	16	16	8	D2594-1	PLUG
9	16	16	8	D2594-3	O-RING
10	1	1	1	D2596	205 WEB
11	1	1	1	D2855	AFT CAP
12	1	1		D3564-5	WEARSHOE
13	1	1		D3564-9	WEARSHOE
14	1	1		D3564-11	WEARSHOE
15	1	1		D3564-13	WEARSHOE
16	2	2		D3566-1	GASKET
17	1	1		D3566-5	GASKET
18	1	1		D3566-13	GASKET
19			1	D4406-041	WEARPLATE ASSEMBLY
20			1	D4406-043	WEARPLATE ASSEMBLY
21	50	50		ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
22	50	50		AN3C4A	BOLT
23	2	2	2	AN3-5A	BOLT
24			8	AN4-45A	BOLT
25	50	50		NAS1149C0332R	WASHER (AN960C10L)
26	2	2	2	NAS1149D0332J	WASHER (AN960JD10L)
27			8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- MATERIAL: N/A
- FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: NONE
- WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 37.7 lbs
- WELDING PER DART QSI 004.
- INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE UP.
- BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-291.
- INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

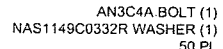
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2011-08-29

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FOR REFERENCE
ORDER

10-1131-145
13-05-01

E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1: REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	14	DRAWING NO.	REV. E
MFG. APPR.	14	D2580	SHEET 1 OF 8
APPROVED	14	TITLE	SCALE
DE APPR.	14	205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



DETAIL A C7-2
SCALE 5X

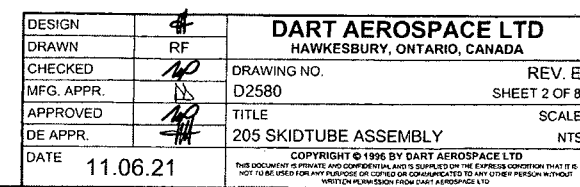


D2579 SPACER

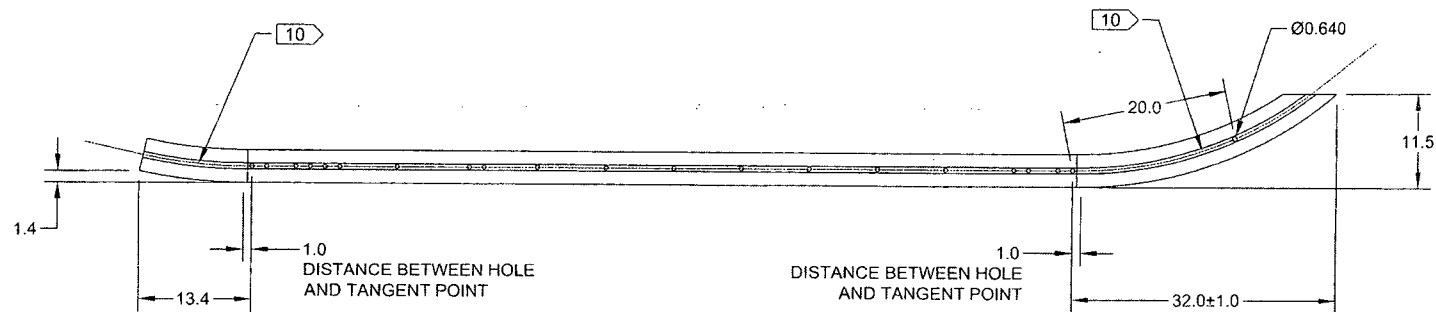
WEB (REF)

-130 (REF)

- DETAIL C D3-2
SCALE 5X



101131

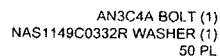


D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

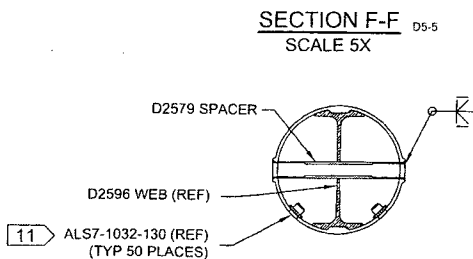
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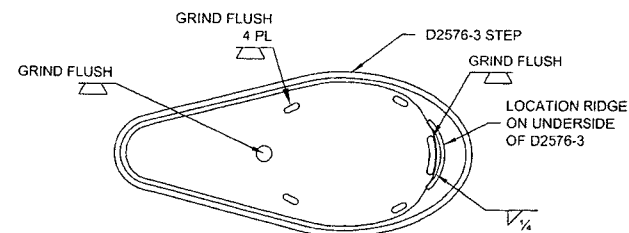
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DRAWN	RF		
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	18	D2580	SHEET 3 OF 8
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DETAIL E D7-5
SCALE 5X

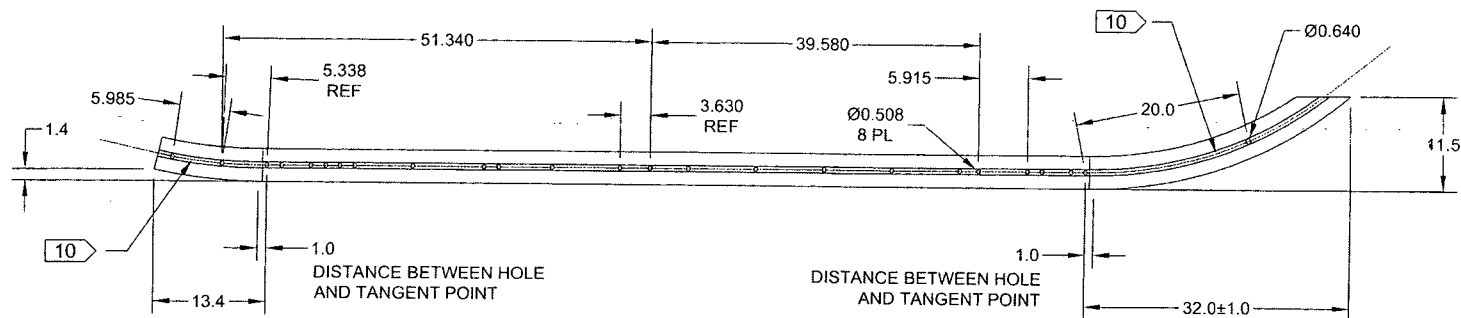


DETAIL G 03-5
SCALE 5X



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DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. 1
MFG APPR.	N	D2580	SHEET 4 OF
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	205 SKIDTUBE ASSEMBLY	NT
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101137



D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2011-08-29

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	RF	D2580	SHEET 5 OF 8
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	205 SKIDTUBE ASSEMBLY	NTS
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E








D5-7



**AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:**

- 1. CHAMFER HOLE 0.050 X 45°**
- 2. INSERT D2579 SPACER (25 PLACES)**
- 3. WELD INTO PLACE AND GRIND FLUSH**
- 4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP**



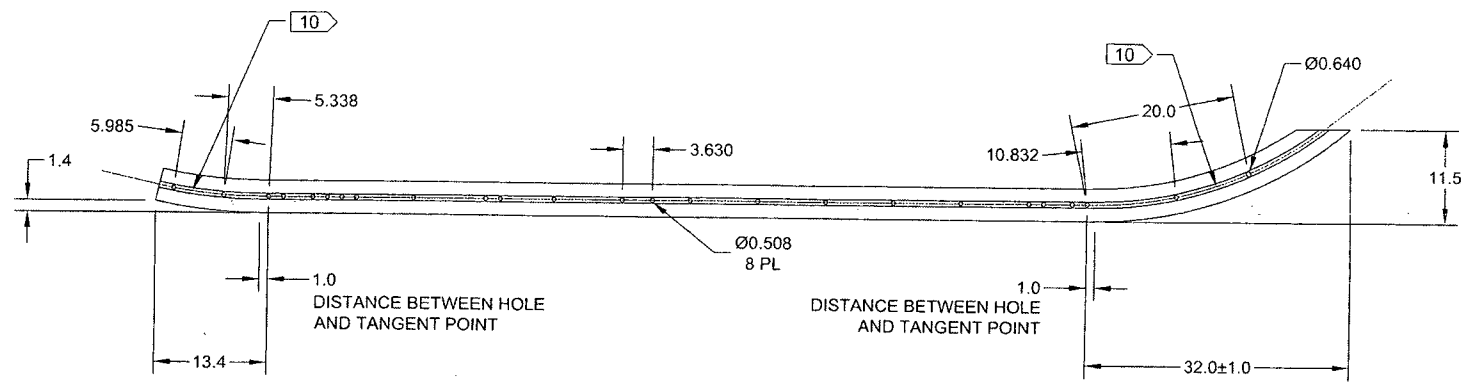
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DRAWN	RF
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	11.06.21

HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2580	REV. E
TITLE 205 SKIDTUBE ASSEMBLY	SHEET 6 OF 8
	SCALE NTS

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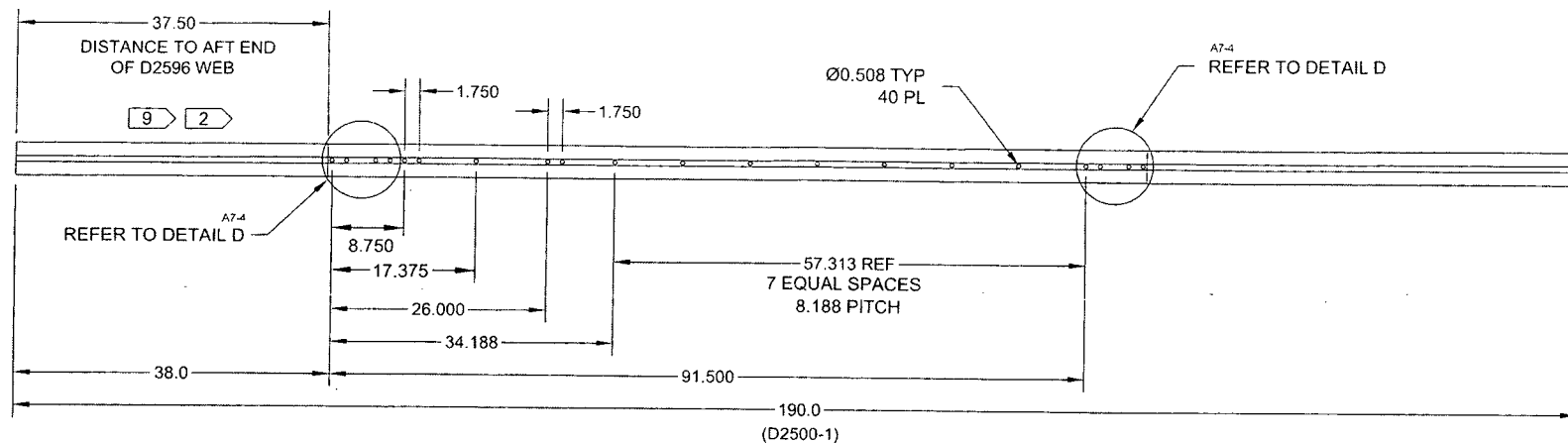
D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)



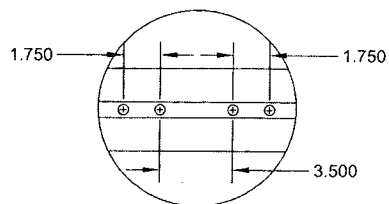
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DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	RF	D2580	SHEET 7 OF 8
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101131



D2580-101 TUBE



DETAIL D
03-4
C7-4
SCALE 5X

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2011-08-29

DESIGN	#	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	10	D2580	SHEET 8 OF 8
APPROVED	10	TITLE	SCALE
DE APPR.	#	205 SKIDTUBE ASSEMBLY	NT
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101131

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REVISE	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D2580-E-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>EC</i>	APPROVED <i>#</i>	DE APPR. <i>HA</i>		
DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	

PURPOSE:

CHANGE ALL C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

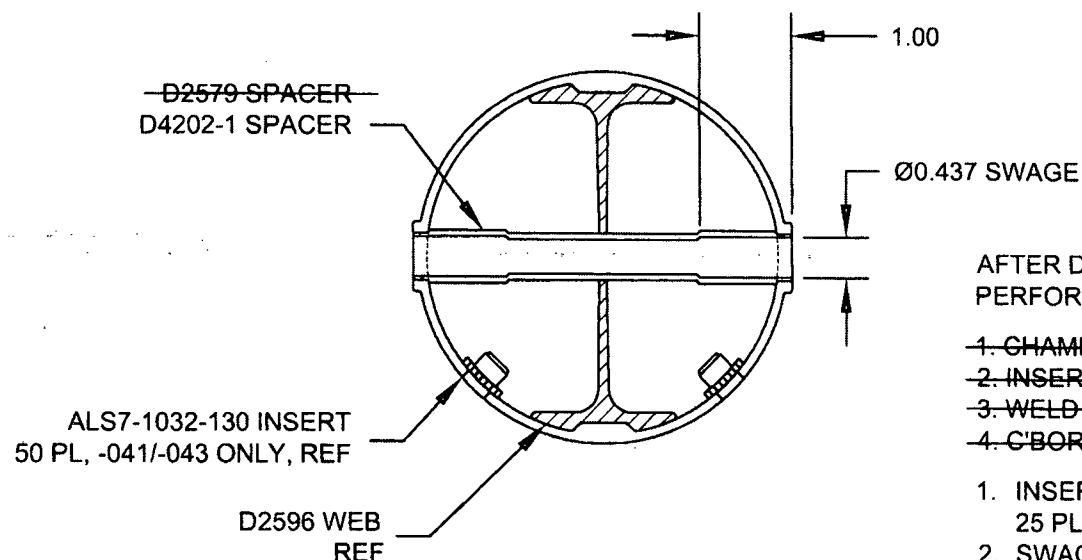
PARTS LIST IS AMENDED AS FOLLOWS:

WAS

QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
20	24	25	D2579	CROSS BOLT SPACER

IS

	4		* D2579	CROSS BOLT SPACER
20	20	25	D4202-1	SPACER

SECTION B-B, SECTION F-F, & SECTION I-I ARE AMENDED AS FOLLOWS
FOR ALL HOLES THAT WERE ORIGINALLY C'BORED:*** FOR -045 SKIDTUBE ONLY:**WELD 4X D2579 SPACERS PER DWG
IN LOCATIONS MARKED "NO C'BORE".
REF SHEET 4 OF DWG.RELEASED
2011-12-14AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 20 PL (-045) OR 25 PL (-047)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

SECTION B-B, F-F, I-I
NOT TO SCALE